

The NCI Strategic Plan To Reduce Health Disparities

I. Statement of Mission and Summary of Plan

The burden of cancer is not borne equally by all population groups in the United States. The unequal burden is exemplified by differences in cancer morbidity and mortality as a function of gender, ethnicity and socioeconomic status. Thus, men are about 50% more likely than women to die from cancer, and among all women, Alaska Natives are 30% more likely to die from cancer than other women. Also, death rates from prostate cancer among African American men are almost twice those of white men, whereas stomach cancer is substantially higher among Asian Pacific Islanders, including Native Hawaiians, than among other populations. In contrast, melanoma is primarily a cancer of white persons. The incidence of cervical cancer in Hispanic women has been consistently higher at all ages than for other women, although African American women have the highest rate of dying from cervical cancer. Persons of low socioeconomic status generally have higher cancer death rates than persons of higher socioeconomic status.

Cancer-related health disparities are also reflected in risk behaviors and health service utilization. These include higher rates of smoking among some populations (e.g., American Indians), strikingly higher rates of obesity among African Americans and Hispanics, and related dietary practices. Similarly, differentials have been documented by age, income, education, and race/ethnicity in these health practices as well as in cancer screening and treatment, although the black-white differential in screening has largely been eliminated. Data confirm lower rates of cancer screening and early detection, differential treatment patterns, and greater frequency of a number of chronic diseases with similar risk profiles to cancer. These and many other factors contribute to more advanced disease at diagnosis, lower survival, and higher cancer death rates among the underserved people of our nation: the poor, ethnic and racial minorities, and others who lack sufficient access to resources to meet their health care needs.

The National Cancer Institute is strongly committed to reducing cancer-related health disparities across the cancer control continuum from prevention to end-of-life care. The Institute supports research to understand the complex causes of disparities in cancer risk, incidence, and mortality, including socioeconomic, cultural, environmental, institutional, behavioral, and biological factors. But research is only one part of the solution. The NCI also devotes resources toward the application of research programs, education and training programs, and working with underserved communities to translate research evidence into improved health outcomes. As a partner in the national cancer control effort, NCI is also planning new initiatives with other federal agencies, local governments, and private entities to disseminate and diffuse effective evidence-based interventions to reduce cancer-related health disparities and improve the health and well-being of underserved communities. **Our overall goal is to understand the causes of health disparities in cancer and to develop effective interventions to eliminate these disparities.**

Key questions and objectives related to this overall goal are as follows:

1. The relative contribution of social causes to the development of new cancers versus the factors that lead to unequal cancer treatment and differential outcomes is a fundamental question that must be answered if we are to reduce cancer-related health disparities. However, to answer this question we must improve the capacity for conducting basic or fundamental research in cancer control and prevention.

Objective I : Expand the capacity to conduct fundamental cancer control and population research to elucidate the determinants of cancer-related health disparities.

2. As we explain the complex determinants of cancer-related health disparities through basic and fundamental cancer control research, the relative importance of different determinants will vary as a function of how the disparity manifests itself. Thus, a key question is how to best measure and monitor the cancer-related health disparities across the spectrum of cancer incidence, stage of disease at diagnosis, disease recurrence, quality of life, and cancer mortality?

Objective II : Expand our ability to define and monitor cancer-related health disparities.

3. While fundamental research can shed light on the complex determinants of cancer-related health disparities and will improve our ability to define and monitor these disparities, another key question is to what extent can prevention, early detection, treatment, and communication interventions effectively reduce, if not eliminate, cancer-related health disparities?

Objective III : Support intervention research in prevention, early detection, treatment and communications that may reduce cancer-related health disparities.

4. Fundamental and intervention research and surveillance are necessary but probably not sufficient to eliminate cancer-related health disparities. Two related questions are: a) how can NCI best disseminate and diffuse the research evidence of effective cancer prevention and control interventions to those local, state and regional institutions and agencies with the direct service mission to reduce the cancer burden of underserved populations, and b) how can NCI best partner with other federal (e.g. CDC) agencies and national voluntary (e.g. ACS) organizations to expand the channels for research dissemination and diffusion?

Objective IV : Expand the channels for research dissemination and diffusion and foster collaborations with allied agencies and organizations to facilitate the translation of evidence into practice.

5. Alleviating cancer-related health disparities will require training new investigators well versed in the challenges of understanding these disparities and eliminating their causes. A key question

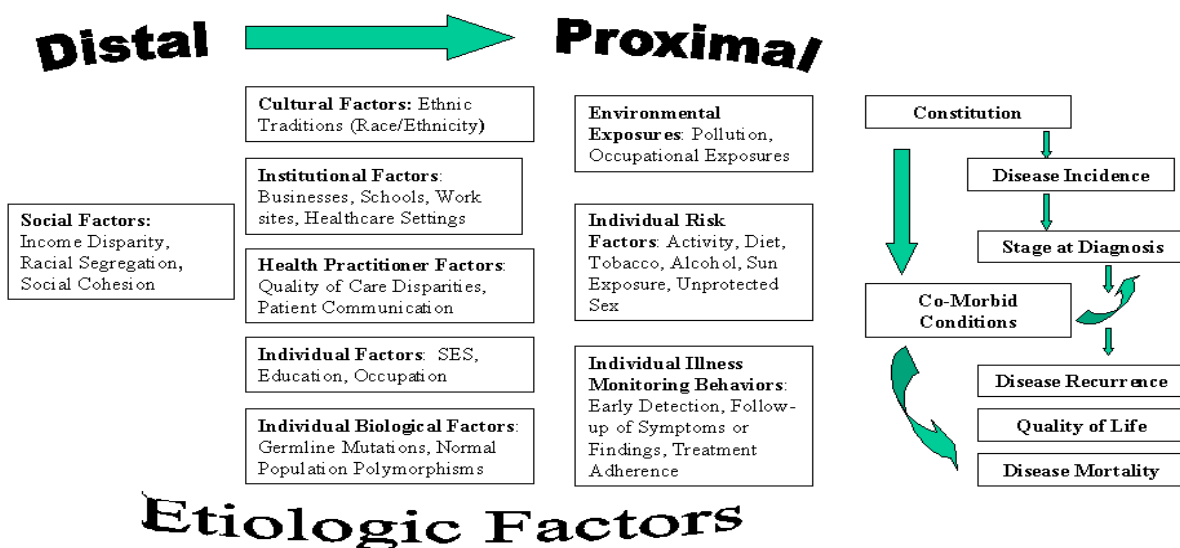
remains how to expand the number of competitive investigators coming from the communities affected by heavier burdens of cancer?

Objective V: Strengthen training and education in health disparities research and increase the number of minority scientists working in cancer control science.

II. Area of Focus - Fundamental Research

Fundamental research is the basic discovery engine of cancer control science. In cancer research, much of this effort has involved learning about the biological, individual and physical environmental factors related to cancer causation. However, little research has been devoted to understanding the broader social causes of cancer risk, incidence and mortality in the United States. As new cancer preventives, diagnostics and treatments are developed, the benefits from these discoveries often are not brought to the people who can use them, nor are they shared equally. Growing evidence strongly suggests that socioeconomic, cultural, health care provider, institutional, and environmental factors may contribute substantially to cancer-related health disparities at the population level. The elements that influence health disparities are complex, and their interactions are largely unknown. Some are beyond the health care system. However, a preliminary framework (Figure 1) outlines potential determinants and indicates where research is needed to explain pathways.

Figure 1: Research to Elucidate Determinants of Cancer-related Health Disparities



Objective I : Expand capacity to conduct fundamental cancer control and population research.

For FY 2001, NCI proposes the following initiatives to address the research gaps related to cancer-related health disparities.

- ***Initiative 1: Centers for Population Health.***

Centers for Population Health will be created to: 1) expand understanding of the social (e.g., income disparities, racial discrimination) and other causes of cancer-related health disparities, 2) develop new hypotheses for cancer control at social, institutional, and policy levels, and 3) develop, apply, evaluate, and disseminate interventions to improve population health. NCI intends to work with other NIH institutes and the Centers for Disease Control and Prevention (CDC) in the development of these Centers.

Action Plan: Present concept to the Board of Scientific Advisors (BSA) in November 2000 and awards in late 2001 and early 2002.

- ***Initiative 2: Cancer Care and Outcomes Research and Surveillance (CanCORS).***

The population-based Cancer Care and Outcomes Research and Surveillance (CanCORS) initiative will be supported to enhance our understanding of the relationship of measures of quality care to cancer outcomes for adult cancer patients. A special focus will be on the reasons for disparities in outcomes of cancer care, particularly for sites like breast, colon-rectum and lung, where treatment disparities may play a significant role in outcome disparities. CanCORS will ensure that the size and diversity of patient populations under study and the selected cancer sites allow statistical examination of disparities in clinical and patient-centered processes and outcomes of cancer care. Such information is critical to reduce health disparities.

Action Plan: Present revised concept to BSA June 2000.

For FY 2002 through 2006, NCI proposes the following goals in fundamental research:

- ***Initiative 3: Basic Biobehavioral Research.***

Developmental research is needed to improve and test behavioral measures and theories for their applicability to diverse ethnic and socioeconomic groups. This initiative will support such work, as well as pre-intervention behavioral science research to refine models of health behavior designed to account for socio-cultural factors and processes. The R21 grant mechanism will be used to achieve the objective of strengthening the

conceptual and methodological foundations of behavioral and public health intervention research.

Action Plan: Present RFA concept to BSA in 2002.

- ***Initiative 4: Diet, Lifestyle and Cancer.***

The program announcement “Diet, Lifestyle, and Cancer” in U.S. Special Populations focuses attention on the causes of cancer in population groups that experience unusually high cancer incidence and mortality, such as the experience of African Americans with prostate cancer. The purpose of this program announcement is to stimulate epidemiologic studies of cancer etiology and behavior in special populations of the US. Innovative approaches that involve inter-disciplinary collaborations of basic, behavioral or clinical researchers with epidemiologists are encouraged.

Action Plan: Reissue Program Announcement with special review. A set-aside will be considered sufficient to fund three large projects per year.

While the above plans involve programs and infrastructure to support extramural research, there are also intramural research projects that would help us understand some health disparities and in some cases develop ways of overcoming them. Several of the more pressing epidemiologic and descriptive intramural studies are:

- ***Initiative 5: A Case-control Study of Prostate Cancer to Investigate Geographic and Ethnic Disparities in the United States***

Prostate cancer is the most commonly diagnosed form of cancer in men in the United States and, following lung cancer, is the second most common cause of cancer-related death. African American men suffer disproportionately from this disease, with some of the highest incidence and mortality rates reported in the world. Among African Americans, the highest death rates tend to cluster in the southeastern United States, with mortality in parts of this region approaching three times the national death rate for whites. Mortality rates among whites also tend to be elevated in this region of the country, but the most pronounced cluster of elevated rates among whites is seen in the northwest quadrant of the United States, based on the recent NCI cancer maps. The reasons for the differential geographic and ethnic risks are unknown, although variation in dietary fat and cooking practices, selenium intake, agricultural exposures, sexually transmitted factors, endogenous hormones and growth factors, physical activity, and body size may be involved, as well as inter-relationships with genetic susceptibility factors. Previous large-scale studies of prostate cancer in African Americans and whites have been limited to questionnaire-based studies.

Action Plan: A comprehensive biologically-based epidemiologic investigation, among African Americans and whites in the southeastern, northwestern and other parts of the U.S.

is planned to identify determinants of prostate cancer in high-risk and low-risk populations.

- ***Initiative 6: Breast Cancer Risk Projection Models for Minority Women***

Available breast cancer risk projection models were developed using data from primarily white populations. We plan to utilize recent population-based case-control studies to develop relative risk models appropriate to minority populations, including African-American women. The prevalence rates of risk factor combinations from the control populations can be combined with relative risk information and with age-specific, race-specific information from the SEER program to develop models for projecting the individualized absolute risks of breast cancer. Other sources of data, such as the Breast Cancer Screening Consortium, will be used also for developing risk models for minority groups.

Action Plan: The proposed project would be completed over a one-year period and support the activities of a Principal Investigator who is planning to join the Biostatistics Branch later this year. Resources would be used to identify data sources, support communication and travel to establish necessary collaborative arrangements, and support the data management and programming necessary to develop the risk projection model.

- ***Initiative 7: Study “Rapid Onset” Cervical Lesions in a Hispanic Population***

Developed countries have seen cervical cancer mortality rates decline as Papanicolaou (Pap) smear screening became more common. Screening has not reached everyone, and mortality in underserved populations, both inside and outside the United States, remains unacceptably high. New technologies, such as automated cytology and testing for the human papilloma viruses (HPV) that cause cervical carcinomas, which may be more effective than traditional Pap smear screening, are now available. Implementation of these newer screening methods could theoretically allow for less frequent screens than the annual Pap smears that are currently the norm. Extending the regular screening interval could decrease overall screening costs and facilitate increased utilization of screening, especially in currently underserved and minority populations. However, a small proportion of women who are regularly screened develop “rapid onset” cervical cancer or its immediate precursors, known as high-grade squamous intraepithelial lesions (HSIL) and adenocarcinoma in situ (AIS), within just a few years of a normal cytologic test. Even the newest, most accurate screening at current intervals may fail to identify these women. Understanding the etiology of rapid onset disease could improve the effectiveness of screening and increase the likelihood that future screening regimens identify rapid-onset disease. Currently, few data are available on rapid onset cervical neoplasia in minority populations such as Hispanic women, since minority groups are least likely to be screened and screening is a prerequisite for defining rapid onset disease. To better understand rapid onset disease, we propose to examine the epidemiology of rapid-onset cervical neoplasia in Costa Rica, where cervical carcinoma rates are high due to ineffective screening

programs. Increased understanding of the etiology of rapid-onset cervical neoplasia will facilitate the development of effective screening strategies that address the cervical cancer burden across the entire spectrum of populations at risk. In the United States, cervical cancer predominantly affects minority populations, and therefore any work that improves screening modalities will have its largest impact on minority populations

Action Plan: To study the natural history of cervical carcinomas and evaluate potential HPV vaccines, investigators from the Division of Cancer Epidemiology and Genetics are assembling a cohort of 12,000 young (18-25 years old) women in Costa Rica. Enrolled women will be screened with the best available screening methods in 6-month or 1-year intervals for a period of four years to identify HSIL or AIS. HPV DNA testing with highly sensitive methods will be performed on all women. Banked cervical specimens and stored blood samples will be available for all enrollees and will allow assessment of genetic susceptibility, host immune responses to HPV infection, hormonal profiles, and nutritional markers. An additional questionnaire will collect data on other risk factors, such as sexually transmitted diseases, smoking, oral contraceptives, and reproductive characteristics.

- ***Initiative 8: Evaluation of Factors Influencing Participation Rates in Population-based Epidemiologic Studies among African Americans***

Participation rates in population-based epidemiologic research are known to vary substantially among different populations, particularly for studies that involve collection of biologic samples. In such studies, recent experience has shown that participation among African Americans is relatively limited. Reasons for the relatively low response rates among African Americans in research studies have not been well examined, but are likely to involve a combination of social, cultural, and economic determinants.

Action Plan: NCI DCEG proposes to conduct a methodological study to evaluate factors that may influence participation rates for the interviews and the specimen collections among African Americans in the United States. The first phase of the study will involve focus group discussions of optimal recruitment methods in representative minority subjects in three geographic locations. The second phase of the study will involve application of the suggestions based on the focus group discussions in a pilot study of subject recruitment, interview, and collection of biologic specimens.

- ***Initiative 9: Case-control Study of Renal Cell Cancer among African Americans and Caucasians in the United States***

DCEG investigators recently analyzed data from the NCI SEER program and found rapidly increasing incidence rates of renal cell cancer in the United States, most notably among African Americans. In this ethnic group, the increases are comparable to those reported for non-Hodgkin's lymphoma and are outpacing those seen for other tumor sites, for reasons that are still unclear. Previous NCI epidemiologic studies of this cancer have

shown associations with smoking, obesity, and hypertension, while studies of high-risk families have provided new insights into susceptibility genes.

Action Plan: A population-based interdisciplinary case-control study of renal cell cancer is planned to examine health care practices, medical conditions, lifestyle and other environmental risk factors, and genetic predisposition that may contribute to the higher incidence and more rapid increases in incidence trends of this cancer among African Americans.

- ***Initiative 10: Study of Prostate Cancer in Africa***

The incidence of prostate cancer among African-Americans is among the highest in the world, about four times higher than among Africans. Reasons for this difference are unclear. The lower reported rates in Africa—possibly due to under-reporting, lack of screening, or a lower prevalence of risk factors—are of special interest, since Africans share ancestry and inherited factors with African Americans. However, few studies have been conducted in Africa to evaluate whether the lower rates are due to incomplete reporting or to a lower incidence of clinical vs. subclinical cases. Since Africans and African Americans share similar genetic roots but have vastly different environmental exposures, a clinical/pathological study in Africa would provide important leads to help explain the marked differences in prostate cancer incidence between Africans and African Americans. The African study would complement a proposed population-based case-control study of prostate cancer in African Americans in the southeast United States, where the rates are especially high.

Action Plan: Conduct a clinical/pathology study of prostate cancer in Africa to evaluate the extent of under reporting, and to investigate clinical, histological, and possibly molecular characteristics of prostate tumors.

- ***Initiative 11: Inflammatory Breast Cancer in African American and White Women***

Inflammatory breast cancer is a clinical and pathologic entity characterized by rapid disease progression and poor prognosis. Although it accounts for less than five percent of all invasive cases of breast cancer diagnosed in the United States each year, it is one of the most lethal types of breast cancer, with incidence higher in African-American women than in white women. In some African countries, namely Tunisia and Nigeria, a rapidly progressing breast cancer that resembles inflammatory breast cancer has been reported to comprise 30-50% of diagnosed breast cancer cases. To date, a large systematic study interrelating histopathology, prognostic, and epidemiologic features of inflammatory breast cancer has not been done. In one case-comparison study in the United States, high body mass index was associated with increased risk, while studies conducted in Tunisia suggest that rural residence and blood type A were etiologic factors for rapidly progressing breast cancer. Other hypotheses that have been proposed include a viral etiology and a failure of the host immune system to control the proliferation of breast cancer cells,

although these hypotheses have not been confirmed in preliminary studies conducted in Tunisia.

Action Plan: A case-control study focused on inflammatory breast cancer among African-American and white women is proposed, with 400 cases of inflammatory breast cancer and an equal number of controls. Because of the rarity of this tumor in the United States and the poor prognosis, some study subjects will be accrued in African countries where a larger proportion of diagnosed breast tumors are of the inflammatory type.

- ***Initiative 12: Breast Cancer in Young African-American Women***

Although breast cancer incidence rates are higher among white women than African-Americans, the reverse is true among women under 40 years of age. The reasons for this racial and age disparity are unclear. A few previous studies have addressed risk factors among African-American women, but numbers have usually been quite limited, especially for younger women. The lack of understanding of the racial trends may also reflect an incomplete understanding of the epidemiology of breast cancer in younger women of any race, since most previous studies have focused on breast cancer. Several provocative hypotheses exist regarding the susceptibility of young African-American women; these include the role of genetic, anthropometric, reproductive and viral factors in women older than age 50. Further, several studies have suggested that young African-American women are at special risk from use of oral contraceptives. Breast cancer that occurs among young women is a devastating disease and one that is generally associated with a poorer prognosis. Thus, studies of etiologic factors that might be amenable to intervention could have major public health implications.

Action Plan: A case-control study focused on women under the age of 55 is proposed, with over-sampling to assure that there is an equal distribution of white and African-American women. An upper age range of 55 will allow assessment of risk factors over an age range at which the incidence trend of whites/African-Americans changes from a value of less than 1 to greater than 1. Population-based controls would be sought for comparative purposes.

III. Area of Focus - Surveillance Research

If we are to reduce cancer-related health disparities, we must define them, develop valid data systems to measure them (particularly over time), and communicate how these disparities affect different populations. Since 1973, NCI's Surveillance, Epidemiology, and End Results (SEER) cancer registry program has been a model for tracking population trends in cancer morbidity and mortality. To better understand health disparities across the entire Nation, NCI has enhanced its relationships with other public and private cancer surveillance partners -- particularly under the aegis of the National Coordinating Council for Cancer Surveillance (NCCCS) -- by increased support and resources available to the North American Association of Central Cancer Registries

(NAACCR) and formalized coordination of federal cancer surveillance program implementation through a recent memorandum of understanding with CDC. Since the late 1980s, NCI has worked with the Health Care Financing Administration (HCFA) to create and maintain the linked SEER-Medicare data base, a major resource for examining health disparities in the receipt and outcomes of cancer care among the U.S. population over age 65. Similar efforts have been put in place to improve the data on health behaviors and the quality and utilization of cancer screening in collaboration with federal (Food and Drug Administration, HCFA, CDC, NCHS, U.S. Department of Agriculture, Census Bureau, General Accounting Office) and non-federal (American Cancer Society, American College of Radiology, and other relevant professional and voluntary health organizations) partners.

Objective II : Expand our ability to define and monitor cancer-related health disparities.

- ***Initiative 1: Increase Coordination of National Cancer Surveillance Research & Control Programs.***

NCI will work with the CDC and its National Center for Health Statistics (NCHS) to substantially enhance the coordination of national cancer surveillance research and control programs. One of the primary objectives of this coordinated effort is to describe and monitor cancer-related health disparities in relation to important demographic, social, economic, health status, and behavioral determinants measured at the individual and population levels. Coordination occurs through formal structured processes related to data collection and information technology systems, analysis, reporting, and interpretation of cancer information from population based registries (NCI-Surveillance, Epidemiology, and End-Results [SEER] program and CDC-National Program for Cancer Registries [NPCR]).

Action Plan: NCI, CDC and NCHS will hold a meeting in the spring of 2000 and plans to continue these interagency working sessions on a regular basis. The outcome will be on a multi-year plan for collaborative activities in analysis and dissemination of cancer-related health survey, health survey methodology, and techniques for improving the quality and availability of data pertinent to measuring population-based health disparities.

- ***Initiative 2: Expand the Surveillance, Epidemiology and End Results (SEER) Program.***

NCI will expand the SEER Program to include populations with differential cancer rates that are currently under-represented (e.g., Non-Mexican Hispanics, rural African Americans, American Indians, high poverty, and high cancer death rates). Expansion will strengthen the existing national infrastructure for surveillance research, which in turn will improve understanding of health disparities in cancer outcomes among major ethnic populations.

Action Plan: In FY 2001, assuming feasibility, add up to four cancer registries to SEER through a competitive RFP issued March 2000. Awards will be made to state registries with data that have met established national criteria for quality and have populations of interest.

- ***Initiative 3: Provide Technical & Training Assistance to Non-SEER Population-Based Registries.***

NCI will assess the feasibility of providing technical and training assistance to non-SEER population-based registries to improve national coverage, data quality, and data comparability, particularly for pooled analyses over time and to investigate differential cancer patterns among population groups.

Action Plan: If feasible, provide resources to registries and organizations to support technical assistance through activities such as field and analytic audits, training, mentoring programs, exchange fellowships, methodology development for measuring and monitoring data quality and comparability, linkage with other health-related information sources, and development of more efficient technology-based information systems for collection, registry operations, and analysis and dissemination of cancer data.

- ***Initiative 4: Quality of Cancer Care Initiative.***

In 1999, the NCI launched a major Quality of Cancer Care Initiative with a four-point plan to: 1) identify core measures of quality cancer outcomes and processes, 2) develop the empiric and methodologic research basis for improving our understanding of the determinants of quality outcomes for persons with cancer as well as ways to develop a national system for monitoring quality of cancer care across diverse populations, 3) reshape the cancer clinical trials program, and 4) improve the quality of cancer communications. Understanding and overcoming disparities in cancer care outcomes is a major emphasis of this initiative.

Action Plan:

- Develop and implement the Cancer Outcomes Research and Surveillance (CanCORS) Consortium.
 - Cross-divisional NCI initiatives will address issues of quality of care and health disparities in clinical trials.
- ***Initiative 5: Enhance National & Regional Data Systems to Measure Health Disparities in Cancer Related Health Behaviors and Screening Practices.***

NCI is enhancing national and regional data systems to measure health disparities in cancer-related health behaviors and screening practices. NCI supports national and regional cancer control supplements to the National Health Interview Survey (NHIS) and to the California Health Interview Survey (CHIS) in collaboration with CDC and the

California State Public Health Department. These surveys were specifically designed to improve data on potentially underserved ethnic, racial and low income populations. The NCI and the Health Care Financing Administration (HCFA) have collaborated on the SEER-Medicare database and issued a very successful Program Announcement that has led to studies that describe disparities in cancer outcomes for the over 65 year old population.

Action Plan: Develop collaborative analytic teams focused on health disparities for surveys soon to be in the field. Expand NHIS Cancer Control Topical Module (CCTM) sample in 2005 to improve capacity to examine health disparities (will require developmental and pilot testing support in 2003 and 2004). Work with CDC and the CHIS team to enhance public use files in support of examining health disparities. Hold a SEER-Medicare workshop in 2001 to identify analytic methods in use by experienced investigators and enhance the NCI Web page to disseminate that knowledge. Update SEER-Medicare in 2003 and 2006.

- ***Initiative 6: Link Screening Information with Cancer Incidence & Mortality Data.***

This linkage needs to be done for breast, cervix, colon and other cancers that may be shown to have screening tests of proven efficacy, in defined populations covered by high-quality cancer registration. In 2000, NCI is expanding the Breast Cancer Surveillance Consortium (BCSC), a novel five-year research effort to examine the quality of screening mammography in community practice. Similarly, one of the special research projects within the HMO Cancer Research Network, DETECT, is examining the reasons for failure of screening for breast and cervical cancer to detect those cancers in an early, treatable stage. Low rates of colorectal cancer screening continue to be documented from both the NHIS cancer control supplements and by the BRFSS. NCI has been supporting pilot work and several working groups to identify the key issues surrounding and feasibility of developing an effort similar to the BCSC for examining colorectal cancer screening practices linked to cancer outcomes.

Action Plan: A concept for the Colorectal Cancer Surveillance Consortium is being developed and will be presented to a fall 2000 or winter 2001 BSA. Members within the HMO Cancer Research Network have been innovators in instituting colorectal cancer screening programs and are likely to be particularly valuable members within that Consortium. Develop cancer-specific surveillance consortia as needed, anticipating that needs may be greatest for prostate, cervical and lung cancer over this five-year period.

- ***Initiative 7: Expand Cancer Communications Survey Research.***

In response to NCI's Extraordinary Opportunity in Cancer Communications Research, NCI plans to conduct a biennial Health Information National Trends Survey (HINTS) of a nationally representative sample of the United States, with underserved population over-sampled, to identify the cancer information seeking strategies and needs of the American public. HINTS will be the first nationally representative longitudinal analysis of the

American public's access to and use of health information. The survey will provide a clear picture of both current and emerging trends in cancer information seeking practices, needs, channel utilization, channel preferences, and source preferences.

Action Plan: Survey goals, questions, and administration strategies are being refined, with the help of a national HINTS consulting group, comprised of federal agency scientists, academic scholars, and corporate researchers. This review process will lead to preparation and submission of an application for OMB approval of the survey. NCI staff will prepare and release an RFP and award a contract (using an MOA mechanism) for conducting the survey. The survey instrument will be field-tested and refined in preparation for administration of the first wave of the survey in late 2000 or early 2001. NCI will analyze and report data widely to help direct national cancer communications programs and interventions, and will prepare future waves of the biennial survey.

- ***Initiative 8: Enhance National Tobacco Surveillance.***

NCI is working to enhance regional and national tobacco surveillance to improve the capacity to identify and understand emerging disparities in tobacco use, particularly among at risk youth. NCI is collaborating with the many federal (CDC, Census, NCHS, FDA) and non-federal (American Cancer Society (ACS), Robert Wood Johnson Foundation (RWJ)) partners to enhance tobacco surveillance systems to understand individual consumption patterns, health policies, legislative, taxation and farm policies that are needed to improve the capacity to enhance tobacco control.

Action Plan: NCI's efforts to articulate priorities, within a global tobacco surveillance plan, should be complete by summer 2000. Continuation of the Tobacco Use Supplement to the Current Population Survey has been identified as a priority and is a particularly valuable resource in understanding health disparities among diverse population as it provides data on the US census population.

- ***Initiative 9: Sustain the Cancer Intervention and Surveillance Modeling Network (CISNET)***

NCI will continue to fund and renew the CISNET, a collaborative group of grantees modeling the population impact of cancer control interventions for breast, prostate, and colorectal cancer. Modeling provides an opportunity to better understand the sources of health disparities in cancer mortality, extrapolate results of randomized clinical trials to groups that carry the heaviest burden of disease and have sometimes been underrepresented in trials, and provides strategies for cancer control interventions to reduce cancer-related health disparities.

Action Plan: Funding for CISNET began in FY 2000 and will continue for four years; there will be a second round of funding in FY 2002, which may include additional cancer sites.

For FY 2002 through FY 2006, NCI proposes the following surveillance research initiatives:

- ***Initiative 10: Expand Methodologic Research.***

NCI has been supporting research on social status gradients and their relation to cancer incidence and mortality that is making innovative use of census data and other group measures as well as data from the National Longitudinal Mortality Study (NLMS). NCI will develop additional measures and surveillance data systems to describe the magnitude of the cancer burden and changes over time, including summary health measures, indices for socioeconomic status, other dimensions of social and economic deprivation, and multi-level characterization of the underserved. These projects support research on factors affecting cancer-related health disparities as well as assess the impact of interventions designed to reduce the national burden within all populations.

Action Plan:

- NCI plans to hold a workshop in 2002 to identify advances in research methods and approaches to incorporate socioeconomic status measures in health and other surveillance.
- NCI will develop a PA to support research on the identification and analysis of such measures within key cancer related regional and national health surveillance systems.
- Continue to fund the trans-agency National Longitudinal Mortality Study (NLMS) initiated in 2000 to update the linkage of data on social and demographic data. Develop process for access to data by researchers that protects confidentiality.

- ***Initiative 11: Expand Geographic Studies.***

NCI will explore how geographic studies can be used to identify regions where cancer risk factors, screening and outcome disparities are high and need to be addressed at a state and local level. For example, the new NCI *Atlas of Cancer Mortality in the United States: 1950–94* identifies areas with high cancer mortality rates. Proposals for follow-up studies to the *Atlas* have been solicited through a new Program Announcement for Geographic-Based Research in Cancer Control and Epidemiology. Included in this solicitation are studies to develop and test hypotheses about the relationships between cancer rates and community characteristics, such as sociodemographic factors and barriers to cancer screening and prevention programs.

Action Plan: PAR released April 2000. Research conference planned 2002

IV. Area of Focus - Prevention, Early Detection and Treatment Intervention and Communications Research

While fundamental research in the population sciences focuses on explaining the causes of cancer-related health disparities and increases our understanding of the mechanisms by which interventions work, and surveillance helps to identify intervention targets and monitor intervention impact, new intervention research is needed if we are to overcome disparities in behavioral risk factors and access to new cancer early detection and treatment technologies.

NCI will direct behavioral intervention efforts to underserved communities, increasing the participation of these communities in the process of linking research to their explicit needs. Partnerships built as part of intervention research and the development of Special Population Networks (see below) can provide the infrastructure needed to test new interventions that develop from fundamental research.

Likewise, new discoveries in cancer treatment interventions are not shared equally by all members of society. Cancer survival rates highlight marked disparities in cancer outcomes following treatment. Whereas in controlled trials persons of equivalent stage may have the same outcome irrespective of race or ethnicity, few Americans of any race/ethnicity participate in clinical trials and recruitment, but retention of ethnic minorities and underserved populations remains a priority in clinical diagnostic and treatment research.

Objective III : Support intervention research in prevention, early detection, treatment and communications that can effectively reduce cancer-related health disparities.

- ***Initiative 1: Transdisciplinary Tobacco Use Research Centers (TTURCs).***

Seven TTURC's currently are funded. Health disparities associated with tobacco use may reflect differences in tobacco use, greater susceptibility to tobacco related disease, poorer access to tobacco control programs, and substandard treatment of tobacco-related disease. TTURC projects addressing these factors include: 1) Investigation of smoking initiation and progression among culturally diverse youth; 2) Comparisons of biomarkers of tobacco use harm in African American versus Caucasian smokers; 3) Development of assessment instruments of nicotine dependence and relapse that are valid for minority populations; and 4) Development of interventions that are efficacious in diverse populations.

Action Plan: Provide supplemental funds to TTURCS to address differential uptake and quitting among underserved populations.

- ***Initiative 2: Pilot Research to Overcome the Digital Divide (PRODD).***

The gap between people who have access to the latest information technologies and those who do not is widening, and those on the "have not" side of the Digital Divide typically also experience the negative effects of health disparities. The greatest determinant of lack of access is now income. The NCI has made a major commitment to expand its

investment in cancer communications in order to increase demand for, access to and use of online and other interactive cancer communications by diverse populations. The NCI's Cancer Information Service (CIS) is in an ideal position to reduce the impact of the Digital Divide.

Action Plan: Provide NCI-funded CIS offices the opportunity to apply for one- year supplements to develop research activities that increase access to online cancer information resources. Release this in 2000 and again in 2002.

- ***Initiative 3: Support Cancer Communications Centers of Excellence.***
Cancer Communications Centers of Excellence will be established to provide the essential infrastructure needed to facilitate rapid advances in knowledge about cancer communications, develop evidence-based strategies and tools for cancer communication, train tomorrow's health communication scientists, and promote collaboration with the Cancer Information Service and partnerships with advocacy groups, industry and commercial endeavors. The Centers will be encouraged to study how to reduce disparities in demand for, access to, and use of cancer communications by ethnic minorities and underserved populations.

Action Plan: Presentation of Concept to BSA later in 2000 for funding in FY 2001.

- ***Initiative 4: Encourage Research on Health Disparities in Survivorship.***
Research is needed to explain how ethnic and cultural factors affect survivorship. We need to explore the impact of cultural, socio-economic, and institutional factors on the quality and length of cancer survivorship in underserved communities. In addition, there is an urgent need for evidence-based strategies to help cancer patients and their families make the transition to extended and long term survivorship. The NCI has committed resources to the Office of Cancer Survivorship, an important goal of which is to plan and support studies of disparities in quality of life and other factors important to cancer survivors from diverse ethnic and socioeconomic backgrounds.

Action Plan: Offer three-year supplements to cancer center grants in FY 2001 to stimulate developmental research elucidating the ethnic and cultural context of survivorship, and the similarities and differences in the survivorship experience across ethnic minority and medically underserved groups. Develop concept for a Program Announcement for release in FY2002 to expand psychosocial and behavioral intervention research among minority and underserved cancer survivors and their families that has the potential to improve quality and length of survival.

For FY 2002 through FY 2006, NCI proposes the following:

- ***Initiative 5: Expand Diet & Physical Activity Intervention Research.***

Much more needs to be learned about whether and how diet, weight and physical activity contribute to the unequal burden of cancer and to better understanding the complex interaction of dietary practices, obesity, and physical activity in different populations. NCI will initiate intervention studies that test theory-based, multiple risk factor reduction strategies in high-risk, underserved populations. Collaboration with other NIH Institutes, such as the National Heart, Lung and Blood Institute (NHLBI) will be sought to support these studies. These investigations will encourage the use of culturally appropriate interventions.

Action Plan: Develop RFA with NHLBI and present to respective BSAs for approval during FY2002

- ***Initiative 6: Redesign the Clinical Trials System.***

Minority cancer patients are involved in NCI clinical trials in numbers proportional to their burden of disease. However, this proportional representation does not extend to several screening and prevention trials. Screening and prevention studies differ in that they accrue healthy subjects as opposed to patients with a cancer diagnosis. The NCI's relatively good record of minority accrual has been maintained through a series of successful efforts to encourage accrual. NCI is improving its efforts to recruit and retain minorities, underserved populations, and the elderly in clinical trials and to tailor its approaches to address linguistic and cultural differences so that the interventions developed are translatable across many subpopulations.

NCI and many of the clinical researchers the Institute supports are fundamentally re-engineering the Institute's clinical trials program. This restructuring, the most far-reaching such reorganization in 15 to 20 years, is one outcome of extensive analysis and review of NCI programs by extramural scientists, patients, and advocates carried out over the last several years at the request of the NCI Director. The aim is to enrich the scientific input into clinical trials conception and design, streamline operations, and broaden access to trials participation among both patients and physicians across the country.

Action Plan: Plan pilot implementation steps to test new systems for identifying the best trials, improving trial planning, speeding trial activation, and improving availability of trials to patients throughout the country. In close coordination with the overall clinical trials restructuring efforts, NCI is coordinating the development of an up-to-date national informatics physician communications module for clinical research with Howard and Meharry Universities. This will enable the linkage, transfer, and analysis of biomedical information relating to cancer and involve underrepresented physicians and other health care professionals in the conduct of clinical trials.

- ***Initiative 7: Expanded Participation Project.***

One of the NCI's greatest challenges is how to encourage participation in trials by physicians who are members of health plans. Many health plans do provide access to clinical trials as a covered benefit. NCI has established partnerships with several health plans as well as physician practice groups which had not been active in NCI clinical trials. This partnership, called the Expanded Participation Project (EPP), has developed a menu of protocols as well as informatics to facilitate accrual and data collection. Howard University is currently a member of the EPP.

Action Plan: The EPP will be extended to a second historically black institution, Meharry University.

- ***Initiative 8: Use Supplements to Enhance Cooperative Group Involvement in Health Disparities Research.***

The Clinical Trials Cooperative Groups have targeted efforts to enhance the accrual of ethnic and racial minorities to clinical trials. More recently, several of the Cooperative Groups have also worked to evaluate barriers to clinical trial participation among older cancer patients. NCI proposes to provide up to three years of supplemental funding to the Clinical Trials Cooperative Groups to strengthen cancer-related health disparity research.

Action Plan: Supplement up to 12 Clinical Trials Cooperative Groups for developmental research in cancer-related health disparities.

- ***Initiative 9: Evaluative Variations in Pharmacokinetics and Toxicity of Chemotherapeutic Agents by Age and Race.***

Response to cancer treatment varies among individual patients. This variability in some cases is influenced by age, race/ethnicity, and socioeconomic status. The NCI and the National Institute on Aging in 1998 issued a Program Announcement on Cancer Pharmacology and Treatment in Older Patients. In addition, the NCI currently funds the Cancer and Leukemia Group B to study population pharmacology, including evaluation of the effects of age, body surface area, race, and end-organ dysfunction upon toxicity and pharmacokinetics.

Action Plan: Expand current research to include additional agents and populations through supplements to the Clinical Trials Cooperative Groups and investigator-initiated grant applications.

- ***Initiative 10: Sustain Minority-Based Community Clinical Oncology Program.***

The Minority Based Community Clinical Oncology Program (MBCCOP) provides for the establishment of partnerships between the NCI-supported research programs and community-based health service providers. It fosters collaboration between the NCI and medical institutions serving ethnic minority and medically-underserved populations. The

Institute has used the MBCCOPs to study the dynamics of accrual of blacks, Hispanics, and whites and low-income individuals to clinical trials.

Action Plan: The MBCCOP Request for Applications will be released several times over the next five years.

- ***Initiative 11: Increase Collaborations with Minority Professional Organizations.***

The NCI and the National Medical Association have a very fruitful collaboration to increase participation of minority medical professionals in NCI sponsored clinical trials. Over the last three years, NCI has sponsored the attendance of more than one hundred NMA members at meetings of the Eastern Cooperative Oncology Group, one of the largest NCI cooperative clinically trials group.

Action Plan: Increase number of NMA physicians involved in current collaboration and increase dialogue with Hispanic, Asian and other professional groups.

- ***Initiative 12: Enhance the Prostate, Lung, Colorectal, and Ovarian (PLCO) Screening Trial.***

The Prostate, Lung, Colorectal, and Ovarian (PLCO) Screening Trial is a large-scale, randomized control trial to determine whether certain screening tests will reduce the number of deaths from these cancers. For prostate cancer, men have a digital rectal exam (DRE) and a blood test for prostate-specific antigen (PSA). For lung cancer, men and women receive a chest x-ray. For colorectal cancer, men and women are screened with flexible sigmoidoscopy. For ovarian cancer, women have a blood test for the tumor marker known as CA-125, and transvaginal ultrasound. The tests being studied may detect these cancers before symptoms develop, but whether treatment at this stage will reduce the chance of dying from the diseases is unknown.

More than half of all minority cancer deaths in the United States are from prostate, lung, colon, or ovarian cancers. The PLCO Trial is enrolling over 75,000 men and 75,000 women who are randomized equally into a screened group and a “usual care” group. The screening group receives the tests at the initial visit and once a year for several years. Members of the control group continue to receive “usual care” from their regular health care providers. Both groups are actively followed for cancer occurrence, morbidity and/or mortality for thirteen years after entry into the PLCO Trial.

In a collaboration between NCI’s Division of Cancer Prevention and the CDC’s Center for Chronic Disease and Health Promotion, an additional accrual site at the University of Alabama Birmingham has been added to increase minority participation. NCI also implemented several minority recruitment efforts at the Detroit, Pittsburgh and Denver PLCO sites.

Action Plan: Enhancements to the PLCO Trial would include keeping high minority accruing centers open for several years after the accrual goal of 148,000 is reached in order

to over-accrue an additional 3,000 minority participants. These participants would be randomized and would follow the standard protocol, including seven annual screens and at least 13 years of annual follow-up. These enhancements would increase the ability to determine the mortality effects of screening and would provide blood and tissue specimens for inclusion in the PLCO Biorepository. The PLCO Biorepository will provide an important resource for future research including evaluation of emerging early detection or prognostic markers, studies of risk factors, and investigations into nutrients or lifestyle factors that may reduce risk of cancer, for which minority specimens could be especially valuable.

- ***Initiative 13: Increase minority participation in current cancer prevention trials.***

The Study of Tamoxifen and Raloxifene (STAR) Trial will determine if the drug raloxifene is as efficacious as tamoxifen in the prevention of breast cancer among women at high risk for the disease. The Selenium and Vitamin E Efficacy Trial (SELECT) will provide more definitive evidence of the efficacy of these drugs in preventing prostate cancer.

Action Plan: STAR and SELECT are involving a number of minority physicians, nurses, and data managers in the design of the studies and of recruitment strategies. Members of the National Medical Association are participating in these trials as enrolling physicians. The Special Populations Networks (see below) will also provide support for accrual of special populations in the form of outreach and education. A highly effective way of increasing minority accrual is to fund selected sites with additional staff for community outreach.

- ***Initiative 14: Expand Veterans Administration & Department of Defense Hospitals and Clinics involvement in NCI Clinical Trials.***

Increasing the involvement of Veterans Administration and Department of Defense Hospitals and Clinics in NCI clinical trials will increase minority participation in both treatment and prevention research.

Action Plan: Provide additional data management support to VA and DOD hospitals that have high potential for minority accrual.

- ***Initiative 15: Use Supplements to Enhance Cancer Center Involvement in Health Disparities Research.***

Many NCI-funded cancer centers are located in or near underserved communities that experience the unequal burden of cancer in their populations. NCI proposes to provide up to three years of supplemental funding to P30 Cancer Center Support Grant holders to stimulate the development of cancer-related health disparity research.

Action Plan: Supplement up to 20 cancer center grants for developmental research in cancer-related health disparities.

- ***Initiative 15: Improve outcomes research in clinical treatment and prevention trials.***

Studies suggest that race is not a factor in outcomes on most clinical trials. Factors that may affect outcomes include socioeconomic status (SES) that may be defined by household income, insurance status, education and other variables. The NCI cooperative groups collect limited data on SES at present.

Action Plan: Fund the cooperative groups to analyze currently available SES data and correlate with outcomes. Fund the cooperative groups to prospectively collect increase SES relevant data for further analysis.

V. Area of Focus - Research Dissemination and Diffusion

NCI will make a significant commitment to research dissemination and diffusion to facilitate the transfer of evidence-based interventions into those communities that bear the greatest burden of cancer-related health disparities. For example, NCI and the National Institute of Drug Abuse (NIDA) have partnered with RWJ to provide additional funding to NCI-funded TTURCs to: 1) conduct tobacco control dissemination and diffusion research and 2) to facilitate transfer of new tobacco control technologies developed by the TTURCs. NCI is also developing a research dissemination and diffusion plan entitled TRIO: Transferring Research Into Outcomes. Key to the success of this plan will be efforts to expand on existing partnerships and to develop new partnerships with other government and voluntary organizations who share NCI's concerns about reducing cancer-related health disparities.

Objective IV : Expand the channels for research dissemination and diffusion and foster collaborations with allied agencies and organizations to facilitate the translation of evidence into practice.

- ***Initiative 1: Model and monitor impact of research dissemination and diffusion.***

NCI will model and monitor the impact of research dissemination and diffusion on DHHS Year 2010 health promotion objectives generally and on cancer-related health disparities in particular.

Action Plan:

- Develop state-specific cancer burden profiles for cancer control program planning using incidence, mortality, screening, and health behavior and health status measures from SEER and NPCR registries, the NCHS vital statistics, Behavioral Risk Factor Surveillance Survey (BRFSS), NHIS, and other health data systems.
- Provide supplements to CISNET grantees to model the impact of dissemination and diffusion of cancer control interventions to underserved populations at the regional and/or national level. Provide mechanisms for public (e.g. CDC) and private (e.g. ACS) partners to participate in special

sessions of the consortium meeting to discuss questions and data sources for application of modeling techniques.

- Work with CDC and ACS to track progress of states and regions respectively, based on mortality reduction models.
- Explore mechanisms to track NCI, CDC and ACS cancer control intervention (research, education and service) investments by state and region.

- ***Initiative 2: Facilitate adoption of evidence-based cancer control interventions.***

NCI will collaboratively facilitate the translation and adoption of evidence-based cancer control interventions to reduce outcome disparities. There remains a large disconnect between the evolving body of scientific evidence and the application of this evidence to programs and activities that affect communities, particularly underserved communities. NCI is committed to taking steps that will translate this research into improved outcomes.

Action Plan:

- Institute regular regional meetings between NCI, CDC, and the ACS National Office and regional cancer control directors to review cancer-related health disparity reduction objectives.
 - Identify state, regional and national indices of program impact.
 - Complete annual reviews of published evidence on best practices to reduce cancer-related health disparities (1. Tobacco FY 2001, 2. Cancer Screening FY 2002, 3. Nutrition & Physical Activity FY 2003, 4. Access to Diagnostic and Treatment Services and Clinical Trials FY 2004)
 - Meet with consumers of research evidence (e.g. state health departments, policy makers, advocacy groups) to identify most useful formats for presenting intervention research evidence that increases probability of its use.
 - Publish and post on the NCI Dynamic Evidence in Cancer Control (DECC) Web Site annual intervention evidence reviews (with ACS) and best practices (with Agency for Healthcare Research and Quality (AHRQ) and CDC) in formats preferred by users.
- ***Initiative 3: Develop Special Partnerships***

NCI will develop special partnerships to model how best to reduce health disparities in underserved communities through research dissemination and diffusion. To facilitate this, NCI will develop a dissemination and diffusion partnership program (with ACS and CDC) focused on community-based needs assessment, intervention evidence review and resource evaluation, and how to set priorities for program implementation based on local needs, intervention evidence and local resources. Special partnerships will be developed with local and regional public health organizations to help develop this dissemination and diffusion partnership program to reduce health disparities in underserved communities. After initial pilot initiatives with regional and local organizations and agencies, this surveillance, research evidence and resource review program will be made available for use by regional and local public health and cancer organizations nationwide.

Action Plan:

- Work with ACS Regional Cancer Control Planning Efforts (e.g. Mid-Atlantic Region) to pilot collaborative efforts to review: 1) regional needs assessment data, 2) regional infrastructure and 3) intervention evidence as a model for assisting other regional organizations and State Agencies to improve the quality of cancer control program planning.
- Develop memorandum of understanding with the District of Columbia Health Department to reduce cancer-related health disparities in Washington, D.C.
 - Staff support for D.C. Department of Health registry regional advisory committee, tobacco control program and CDC-funded breast & cervical cancer screening
 - Staff support for D.C.-based NCI and CDC funded cooperative agreements
 - Support pilot tests of dissemination and diffusion strategies to reduce cancer-related health disparities

VI. Area of Focus - Training and Education

The NCI has recognized the unequal burden of cancer and disparities in cancer outcomes for many years. One of the key requisites for alleviating cancer-related health disparities is training new investigators well versed in the challenges of understanding disparities and committed to eliminating their causes. Whenever possible, these investigators should come from the communities affected by heavier burdens of cancer. Furthermore, the education of minority and underserved communities is critical to the success of cancer control. The revolution in informatics and communications offer new major opportunities for cancer control research.

Among several organizational changes made to address these challenges has been the formation of the branches within the Behavioral Research Program in the Division of Cancer Control and Population Sciences (DCCPS) for Applied Sociocultural Research and Health Communications and Informatics. In addition the DCCPS has formed a new position and hired an Assistant Deputy Director for Research Dissemination and Diffusion whose responsibilities will include the development of the best mechanisms for communication of the results of cancer control research, particularly that which is relevant to ethnic minority and underserved groups. Staff in DCCPS work closely with the NCI Office of Communications (OC) to coordinate the dissemination of research findings to ethnic minority and medically underserved communities (see below).

Another NCI effort to broaden participation in cancer-related research and training activities by minorities is the Comprehensive Minority Biomedical Branch (CMBB). A central element of the branch's activities is the Continuing Umbrella of Research Experience (CURE). This program exposes promising minorities at high school and undergraduate levels to cancer research and training. The CURE program provides a continuum of competitive opportunities from high school through higher education and the successful establishment of independent cancer investigators.

Finally, NCI has a number of in-house and extramural training mechanisms that will be directed to increase the number, diversity and quality of cancer investigators who can study cancer-related health disparities.

Objective V: Strengthen training and education in health disparities research and increase the number of minority scientists working in cancer control science.

- ***Initiative 1: Special Populations Networks for Cancer Awareness, Research, and Training.***

NCI has launched the Special Population Networks (SPN) for Cancer Awareness Research and Training. Under the leadership of the NCI Office of Special Populations Research, the SPN represents the first time that underserved communities have received research infrastructure funds and training to partner with academic cancer centers and NCI. The purpose of this partnership is to develop and test community-based, participatory cancer control intervention research designed to address cancer-related health disparities. Training of SPN participants in cancer control science is a critical part of this initiative. The NCI will initiate a Cancer Control Academy for Community Partners in FY 2000-2001 .

The request for applications from groups representing special populations to develop and implement a variety of community-based cancer control and prevention activities was released in early 1999 and eighteen were funded in April 2000. The specific goals of the Special Populations Networks include:

1. Build infrastructure. Awardees will be encouraged to develop collaborative relationships with relevant entities such as the Cancer Information Service (CIS) and NCI-funded Cancer Centers; other government agencies such as the Centers for Disease Control and Prevention (CDC), Health Care Finance Administration (HCFA), and the Office of Minority Health (OMH); voluntary organizations such as the American Cancer Society (ACS), grass-roots community groups, programs, and coalitions. The relationships are to foster cancer awareness activities and should be formalized by the joint preparation of project plans describing the elements of the relationship and the activities to be conducted.
2. Establish academic and/or clinical partnerships between the awardee and research institutions to support enhanced minority accrual to clinical trials and to promote participation of minority scientists in research.
3. Promote training opportunities, including mini-sabbaticals for minority researchers and students, and enhancing awareness and utilization of training opportunities. Awareness of NCI training opportunities could be enhanced by establishment of informational

links with the Comprehensive Minority Biomedical Branch (CMBB) and the Cancer Training Branch. Utilization rates of NCI training opportunities will be tracked annually with the assistance of the CMBB.

4. Plan and institute collaborative developmental projects with relevant NCI Divisions and research partners, including Cancer Centers, Cooperative Groups, academic institutions, and community groups. Using additional developmental funds, each awardee may initiate one to four pilot projects per year following review, approval, and prioritization of applications by the awardee's steering committee.

5. Develop research partners competing grant applications stemming from the pilot projects. Success here would be measured by the awarding of an NIH grant to one or more of the research partners.

Action Plan: At least one funded SPN is focused on every major Special Population.

- ***Initiative 2: Strengthen Training in Minority Colleges and Universities***

NCI will increase the amount and quality of research, training, education and outreach activities in Minority-Serving Institutions (MSIs) by encouraging collaborations and partnerships with NCI-sponsored Cancer Centers.

Action Plan: A request for application (RFA) will be issued to support the planning and/or implementation of collaborations and partnerships between institutions with high minority student enrollments and NCI-designated Cancer Centers. Applications will be submitted in one of three ways: Three year planning grants (P20s) for the development of formal collaborations between scientists and faculty in Minority-Serving Institutions (MSIs) and scientists and faculty in Cancer Centers (NCI-designated and other institutions with highly organized, integrated research efforts focused in cancer). The P20 will support administrative core activities and a developmental fund for conducting pilot projects and programs, workshops, and retreats designed to identify areas of greatest opportunities in the four targeted areas. The P20 will become the basis for generating an array of competitively funded grant application by the NCI and other cancer research funding organizations such as the CDC and American Cancer Society. A second RFA would solicit five year cooperative planning grants (U56's) to establish comprehensive planning partnerships between MSIs and NCI-designated Cancer Centers (or groups of centers). The U56 represents a first step before achieving a Comprehensive Minority/Institution Cancer Center Partnership, which is the third RFA, a U54 (five years in duration), which will provide support for an administrative core and for planning and evaluation activities that may include the costs for external advisors, workshops, retreats, pilot

projects/program and up to three full projects per year in research, and/or programs in research training, outreach and education.

- ***Initiative 3: Facilitate Participation of Minority Students and Faculty of Minority Schools***

NCI will encourage increased participation of minority students, scientists and faculty of minority schools in academic cancer meetings. The Institute has sponsored two very successful programs providing funds to the American Association for Cancer Research to bring minority scientists to annual meetings. There have been a number of excellent applicants to the Minority Scholar Awards in Cancer Research and AACR-HBCU Faculty Awards in Cancer Research. These programs are very popular and oversubscribed.

Action Plan: Expand the Minority Scholar Awards and AACR-HBCU Faculty Awards Program.

- ***Initiative 4: Support Promising Young Minority High School & Undergraduate Minority Students***

It is believed that most successful scientists develop an interest in science while in junior high and high school. The Institute has provided supplements to approximately 12 Cancer Center Grants (P30) to support the placement of approximately sixty promising young minority high school and undergraduate minority students in cancer center laboratories to provide them with research experiences.

Action Plan: Increase the number of cancer centers participating to twenty five.

- ***Initiative 5: Attract Underrepresented Minorities into Cancer-Related Research Activities.***

Efforts to provide administrative supplements to attract underrepresented minorities into cancer related research activities have been one of the most successful tools in the Institute's efforts to support research and training for minority students and researchers.

Action Plan: Increase the promotion of the minority supplements program and expand the funding of the program by 50%.

- ***Initiative 6: Expand Support for the Science Enrichment Program***

The NCI also supports the Science Enrichment Program which is a five to six week science camp for approximately 120 tenth and eleventh grade students each summer. The Science Enrichment Program is currently held at two universities each summer. It also includes an evaluation to monitor progress of participants through college and into graduate school.

Action Plan: Increase the number of sites to four and approximately 240 students.

- ***Initiative 7: Expand the Cancer Prevention Fellowship Program.***

NCI proposes to increase the number of scientists studying health disparities by developing a new track in the NCI Cancer Control Fellowship Program focused upon research and training activities designed to better understand and reduce health disparities.

Action Plan: Two fellows per year will be recruited to the program and focus on health disparities research within the Office for Special Populations Research or the Division of Cancer Control and Populations Research.

- ***Initiative 8: Encourage Cancer Centers to Partner with Health Care Institutions in Underserved Communities.***

The NCI will encourage cancer centers to partner with health care institutions in underserved communities in order to apply for R25 training grant support that provides community-based clinical and cancer control research training opportunities.

Action Plan: Promote through SPNs.

- ***Initiative 9: Raise Awareness of Treatment-related Cancer Outcome Disparities in Relation to Improving Quality of Care***

Given the NCI's commitment to improving the quality of cancer care for all Americans, several of the research and surveillance initiatives described above will document the variability in quality-of-care indicators that may contribute to disparities in cancer outcomes post-diagnosis. As such, it will be extremely important to work with the cancer care community to review these findings, discuss intervention ideas to eliminate cancer care disparities, and formulate plans to adopt new approaches to realizing the hope that equal care will lead to equal outcomes for all cancer patients.

Action Plan: NCI will organize workshops at national meetings of the cancer care professional organizations (e.g., American Society of Clinical Oncology [ASCO], American College of Surgeons [ACoS], ASTRO), national meetings of cancer centers (e.g. Association of American Cancer Institutes [AACI]), and community cancer programs (Association of Community Cancer Centers [ACCC]) to review the emerging data on cancer care disparities and to help set a research and practice agenda for eliminating cancer care disparities.

- ***Initiative 10: Sustain the Office of Special Populations Research***

The Office of Special Populations Research (OSPR) of the NCI is charged with assuring that the needs of special populations remain an integral part of the NCI planning process. The OSPR is responsible for planning and coordination of special populations research within the NCI and interacts with other institutes and offices on issues relevant to cancer research and special populations. An important aspect of this charge is to assess the

scientific literature and at times the raw data to define the real scientific questions most pertinent to improving the health of these special populations. Efforts to address the wrong questions divert scarce resources and can be more harmful to society than no efforts at all. The issues of special populations are often emotive and enthralled in politics, but relevant questions need to be articulated and discussed in a scientific forum and require some coordination.

Action Plan: Monitor the literature and write papers synthesizing the information into a convenient form.